

PATENT

Attorney Docket No: 259/175

REMARKS

Through a series of substantial amendments, all claims in this application have been limited to a novel and non-obvious automotive pyrotechnic initiator having a molded, integral, unitary electrically-nonconductive overmolded body that surrounds substantially all of the initiator subassembly and provides structural support and installation orientation features. Various dependent claims are directed to further novel and non-obvious specific features such as injection molding and the manner and location of such molding.

Despite their inclusion of these limitations, all pending claims (1-5, 7-16, 19, 20, 22, 24, and 25) were again rejected in the October 7, 2003 Office Action. Claims 1-5, 8-11, 22, 24, and 25 stand rejected as obvious over U.S. Pat. No. 5,576,509 to Refouvelet et al.

("Refouvelet") in combination with either of U.S. Pat. No. 2,741,179 to Taylor et al. ("Taylor") or U.S. Pat. No. 3,906,858 to Craig et al. ("Craig"), and claims 7, 12-16, 19, and 20 stand rejected as obvious over the same combinations yet further combined with one or two of three additional references.

The Office Action acknowledges that "Refouvelet et al do not disclose ... the electrically non-conductive overmolded body surrounding substantially all of the initiator subassembly" recited in all pending claims. (Page 1, emphasis added).¹ The integral, unitary overmolding around the upper portion of the initiator, however, is the crux of the present invention. As disclosed, this can now be achieved in a single-step process, and the installation features of the automotive initiator body, and electrical insulation for the automotive initiator, can now be efficiently provided in a

¹ The Office Action does later assert that the Refouvelet abstract "implies that the molded plastics material could surround the upper portion of the initiator" (pages 1 and 5, emphasis added), however, it does not base any rejection on anticipation by inherent disclosure, and (correctly) it does not assert that such a rejection could be made. It is also noted that the asserted implication would not have reasonably been drawn from the cited disclosure of Refouvelet, as explained in paragraph 4 of the accompanying declaration of Vahan Avetisian ("Avetisian Declaration").

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single, integral, unitary part. It was neither known nor expected that such could be practically obtained for an automotive initiator, prior to the present invention.

With regard to the critical aspect of the present invention missing from Refouvelet, i.e., the integral, unitary, electrically-nonconductive overmolding surrounding substantially all of the initiator subassembly, the Office Action asserts that:

Both Taylor et al and Craig et al teach that it is old and well known in the art to substantially surround all of an initiator subassembly except for an exposed portion of a connector end with an electrically-nonconductive body to form a protective casing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the overmolded [sic, molded] plastic body 10 surround substantially all of the initiator subassembly of the Refouvelet et al initiator to form a protective casing, as taught by either Taylor et al or Craig et al.

(Pages 1-2). That assertion is respectfully traversed.

Regarding the combination of Refouvelet and Craig, the disclosure of Craig relied upon by the Examiner (allegedly an electrically non-conductive body surrounding substantially all of the initiator subassembly) adds nothing relevant to the disclosure of Refouvelet. Both references show an electrically non-conductive casing that surrounds substantially all of the initiator subassembly, but is in two distinct parts rather than being integral and unitary as claimed. In Refouvelet, the casing (3) comprises a plastic plug (16) covering the top of the initiator and bonded to a plastic molding (10) by welding, adhesives, or clips. (See Fig. 2; col. 4, lines 49-60). Likewise, in Craig, "disc, pad or cover 46 is disposed over igniter 10 sealing cavity 26 ... extending over the ends or nonrecessed portions 48a, 48b of electrically conductive members 16a, 16b ... [and] is made of a suitable dielectric material, such as synthetic rubber, which may be joined to the igniter members by a suitable adhesive." (Col. 4, lines 37-47). Neither reference remotely suggests an **integral, unitary** body, and combining these two duplicative references in that regard changes nothing. (See Avetisian Decl., ¶5).

Regarding the combination of Refouvelet and Taylor, there was no suggestion or motivation to modify the Refouvelet detonator using the teachings of Taylor in such

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a way as to result in the claimed integral, unitary overmolded body, and such a combination could not have properly been made. First, there would have been no motivation for one of ordinary skill in the art at the time of the invention to attempt to apply the rubberlike "sheath" or "coating" of the Taylor detonator to an automotive initiator made according to Refouvelet. The construction and manufacturing techniques relevant to the Taylor detonator are so dissimilar to those of automotive initiators (e.g., the detonator has a matchhead rather than an initiator charge that is directly hermetically enclosed by a can, the detonator simply has wire leads at its end rather than a highly defined connector end, the detonator's rubberlike coating does not provide any support or engagement feature, etc.) that one of ordinary skill in the art would have been directly discouraged from any such attempt as it would have been useless. (See Avetisian Decl., ¶6).

Second, the rubberlike sheath or coating of Taylor could not properly be combined with an automotive initiator according to the teachings of Refouvelet as it would not result in a useful device due to the dissimilarity of the construction and manufacturing techniques as just noted. Taylor does not contribute in any way to solving the problem overcome by Applicant (see e.g., page 2, line 24 to page 4, line 10) of how to provide an automotive initiator with a unitary, integral molded body that surrounds substantially all of the initiator subassembly and provides structural support and installation orientation features. (See Avetisian Decl., ¶7).

In summary, none of the cited references, alone or in any reasonable combination, taught or suggested to one of ordinary skill in the art an integral and unitary overmolded body surrounding substantially all of an initiator subassembly (including its upper section).

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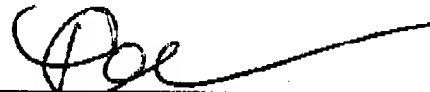
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Conclusion

For the foregoing reasons, it is respectfully requested that the presently amended application be allowed. The Examiner is invited to contact the undersigned by telephone if desired. It is believed that no fee is due with the present response, but to the extent that any fee is due, please consider this a petition therefor, and the Commissioner is hereby authorized to charge Applicant's Attorney's Deposit Account No. 502502 for such fee.

Respectfully submitted,

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THOMAS J. BRINDISI

Reg. No. 40,348

20 28th Place, Suite B
Venice, California 90291
Tel. (310) 439-2901
Fax. (310) 439-2902
Cel. (213) 716-4370